Financial ratio formulas

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1. Operating cycle

Number of days of inventory = \( \frac{\text{Inventory}}{\text{Average day's cost of goods sold}} = \frac{\text{Inventory}}{\text{Cost of goods sold / 365}} \)

Number of days of receivables = \( \frac{\text{Accounts receivable}}{\text{Average day's sales on credit}} = \frac{\text{Accounts receivable}}{\text{Sales on credit / 365}} \)

Number of days of payables = \( \frac{\text{Accounts payable}}{\text{Average day's purchases}} = \frac{\text{Accounts payable}}{\text{Purchases / 365}} \)

Note: \( \text{Purchases = Cost of goods sold + Ending inventory + Beginning inventory} \)

Operating cycle = Number of days of inventory + Number of days of receivables

Net operating cycle = Number of days of inventory + Number of days of receivables - Number of days of purchases

2. Liquidity

Current ratio = \( \frac{\text{Current assets}}{\text{Current liabilities}} \)

Quick ratio = \( \frac{\text{Current assets} - \text{Inventory}}{\text{Current liabilities}} \)

Net working capital to sales ratio = \( \frac{\text{Current assets - Current liabilities}}{\text{Sales}} \)

3. Profitability

Gross profit margin = \( \frac{\text{Gross income}}{\text{Sales}} \)

Operating profit margin = \( \frac{\text{Operating income}}{\text{Sales}} \)
4. **Activity**

Inventory turnover = \( \frac{\text{Cost of goods sold}}{\text{Inventory}} \)

Accounts receivable turnover = \( \frac{\text{Sales on credit}}{\text{Accounts receivable}} \)

Total asset turnover = \( \frac{\text{Sales}}{\text{Total assets}} \)

Fixed asset turnover = \( \frac{\text{Sales}}{\text{Fixed assets}} \)

5. **Financial leverage**

Total debt to assets ratio = \( \frac{\text{Total debt}}{\text{Total assets}} \)

Long-term debt to assets ratio = \( \frac{\text{Long-term debt}}{\text{Total assets}} \)

Total debt to equity ratio = \( \frac{\text{Total debt}}{\text{Total shareholders' equity}} \)

Equity multiplier = \( \frac{\text{Total assets}}{\text{Shareholders' equity}} \)

Times-interest-coverage ratio = \( \frac{\text{Earnings before interest and taxes}}{\text{Interest}} \)

Fixed-charge coverage ratio = \( \frac{\text{Earnings before interest and taxes + Lease payment}}{\text{Interest + Lease payment}} \)
6. Shareholder ratios

Earnings per share = \( \frac{\text{Net income available to shareholders}}{\text{Number of shares outstanding}} \)

Dividends per share = \( \frac{\text{Dividends paid to shareholders}}{\text{Number of shares outstanding}} \)

Dividend payout ratio = \( \frac{\text{Dividends}}{\text{Earnings}} \)

Price-earnings ratio = \( \frac{\text{Market price per share}}{\text{Earnings per share}} \)

7. Return ratios

Basic earning power ratio = Operating return on assets = \( \frac{\text{Operating income}}{\text{Total assets}} \)

Return on assets = \( \frac{\text{Net income}}{\text{Total assets}} \)

Return on equity = \( \frac{\text{Net income}}{\text{Shareholders' equity}} \)